

MCAS EL TORO
INTERIM GROUNDWATER TREATMENT SYSTEM
MONTHLY MONITORING REPORT
OCTOBER 1989

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INTERIM GROUNDWATER TREATMENT SYSTEM
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BACKGROUND

James M. Montgomery, Consulting Engineers, Inc. (JMM) is submitting its third of nine monthly monitoring reports for the MCAS El Toro Interim Groundwater Treatment System. The system consists of three wells extracting groundwater from along the southwestern perimeter of the Base and pumping it to a granular activated carbon (GAC) treatment system. The treated water is pumped into the golf course irrigation system. The interim groundwater treatment system has been in operation since June 15, 1989.

ACTIVITIES COMPLETED THIS MONTH

Analytical Data

- Three samples were collected on October 12, 1989 for analyses. Matrix spike and duplicate samples were also obtained for analyses.

OPERATION DATA

- Flow meter readings were taken at all three wells, the GAC treatment and the golf course storage tank.
- PS-1 was shutdown due to rail car activity.
- PS-3 was operating satisfactorily. The high level probe was lowered ten feet and the controls worked satisfactorily in the automatic mode.
- PS-4 was operating satisfactorily. The high level probe was lowered approximately twenty feet and the controls worked satisfactorily in the automatic mode.
- The wells were pumping below design flow rates.
- The water level at all three wells were measured and found to be within six inches of their original depth before pumping for treatment began.

MAINTENANCE DATA

- Conducted general housekeeping around all the sites.
- The GAC storage tank had no algal growth.

- A break in the discharge line from the GAC storage tank was repaired by RJC Plumbing, the contractor who installed the system.
- Investigated requirements for burying supply line from PS-1 under railroad tracks to avoid shutdown during rail car activity. It is feasible to bury the line. Need request from U.S. Navy before proceeding.

DISCUSSION OF RESULTS

Two of the three wells are pumping to the GAC treatment system an average of six gallons per minute. Approximately 940,000 gallons of groundwater have been treated during the first four months of operation.

Table 1 provides a summary of the analytical results for samples taken before start up of the GAC treatment system and results of subsequent monthly monitoring samples. Table 2 provides a summary of the groundwater extracted from the three wells and treated at the GAC treatment facility. Figure 1 is a schematic flow diagram of the overall extraction and treatment system including sample locations.

No detectable contaminants have been analyzed in the treated groundwater pumped to the golf course irrigation system.

Traces of Tetrachloroethene (PCE) and Trichloroethene (TCE) were detected in the July 28 samples in the outlet of Unit 1 at the GAC Treatment Facility. These compounds were not detected in the samples taken during September or October. Chloroform has been detected in the outlet of Unit one from the September and October samples. The original design criteria allows up to five micrograms per liter of a contaminant before procedures for replacing a carbon unit is implemented.

The concentration of TCE at the GAC Inlet has been higher by fifty percent than previously detected at each well. To determine the source for the higher concentrations of contaminants, additional sampling is required at each well.

ACTIVITIES PLANNED FOR NEXT MONTH

The fourth of nine monthly monitoring site visits is scheduled for the second week in November.

TABLE I
MCAS EL TORO INTERIM GROUNDWATER TREATMENT SYSTEM
SUMMARY OF ANALYTICAL RESULTS

Location/Compound	Range Before Startup	Sample Date, Concentration, ppb (ug/l)		
		7/28/89	9/11/89	10/12/89
<u>PS-1</u>				
Chloroform	N/A	N/A	N/A	N/A
Tetrachloroethene (PCE)				
Trichloroethene (TCE)				
cis-1, 2-Dichloroethene				
<u>PS-3</u>				
Chloroform	ND--> 12	2.6	N/A	N/A
Tetrachloroethene (PCE)	24-->83	76		
Trichloroethene (TCE)	33--70	65		
cis-1, 2-Dichloroethene	ND--> 7.4	5.8		
<u>PS-4</u>				
Chloroform	ND--> 3.1	2.4	N/A	N/A
Tetrachloroethene (PCE)	48--> 59	60		
Trichloroethene (TCE)	78--> 98	70		
cis-1, 2-Dichloroethene	10--> 15	8		
<u>GAC Inlet</u>				
Chloroform	N/A	3	2.9	3
Tetrachloroethene (PCE)		100	58	69
Trichloroethene (TCE)		99	100	150
cis-1, 2-Dichloroethene		7.9	8.4	9.2
2-Butanone		ND	25	ND
<u>Unit 1 Outlet</u>				
Chloroform	N/A	ND	0.2	0.6
Tetrachloroethene (PCE)		0.6	ND	ND
Trichloroethene (TCE)		0.2	ND	ND
cis-1, 2-Dichloroethene		ND	ND	0.3
<u>GAC Outlet</u>				
Chloroform	N/A	ND	ND	ND
Tetrachloroethene (PCE)		ND	ND	ND
Trichloroethene (TCE)		ND	ND	ND
cis-1, 2-Dichloroethene		ND	ND	ND
Groundwater Treated, Gallons	N/A	187,523	669,430	932,980

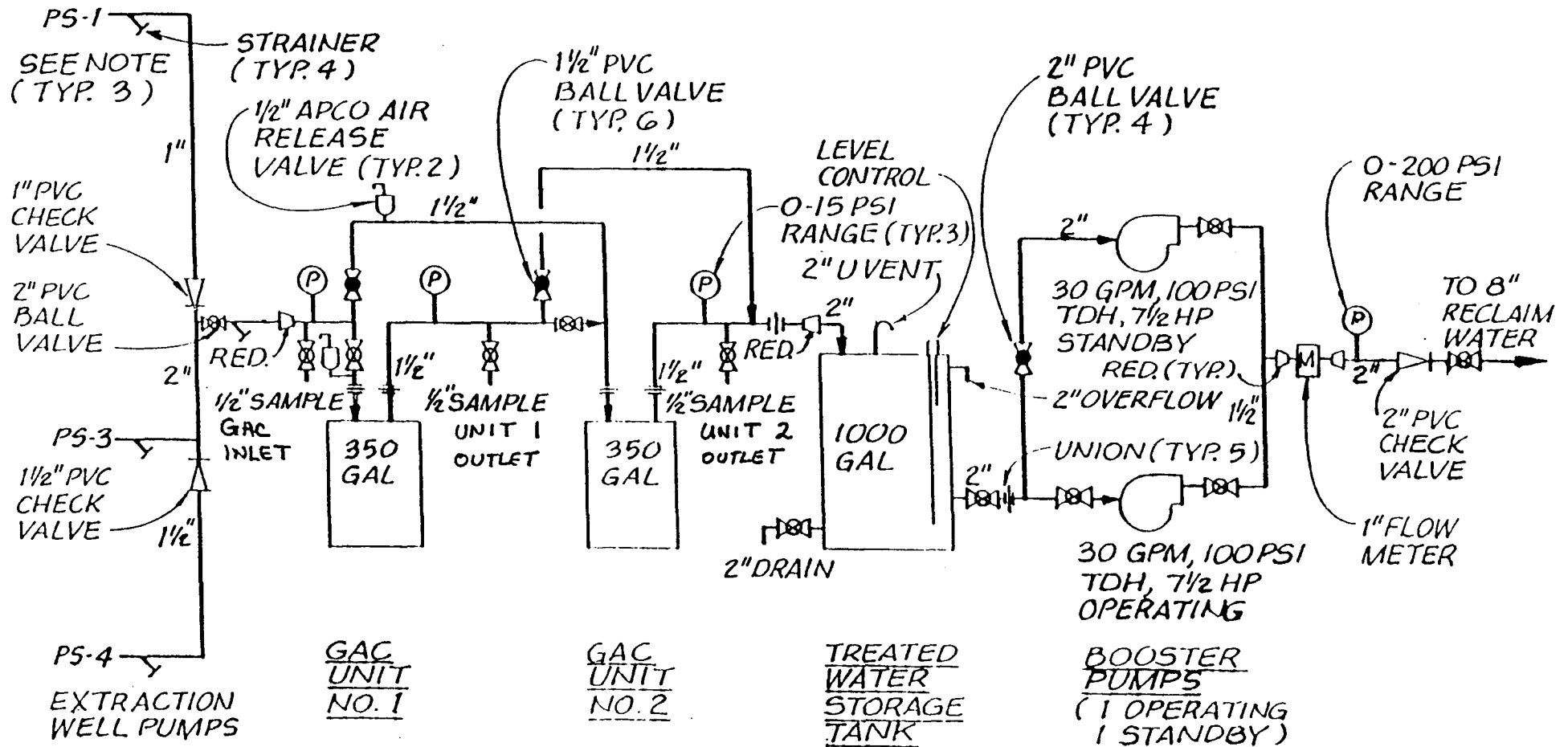
Legend: NA - No Analysis, ND - Nondetectable

TABLE 2
MCAS EL TORO INTERIM GROUNDWATER TREATMENT SYSTEM
SUMMARY OF FLOW RATES

	<u>7/7/89</u>	<u>7/29/89</u>	<u>9/11/89</u>	<u>10/13/89</u>	<u>1989 TOTALS</u>
<u>PS-1</u>					
Meter Reading, Gallons	N/A	300	569	8,100	
Gallons Pumped	0	300	269	7,531	8,100
Days	0	22	44	32	98
Average Flow, gpm	0	0.01	0.004	0.16	0.06
<u>PS-3</u>					
Meter Reading, Gallons	6,470	22,580	235,590	368,870	
Gallons Pumped	2,970	16,110	213,010	133,280	368,870
Days	0	22	44	32	98
Average Flow, gpm	16.5	0.5	3.4	2.89	2.6
<u>PS-4</u>					
Meter Reading, Gallons	5,930	189,730	426,500	569,870	
Gallons Pumped	1,860	183,800	236,770	143,370	569,870
Days	0	22	44	32	98
Average Flow, gpm	10.3	5.8	3.7	3.11	4
<u>GAC Outlet</u>					
Meter Reading, Cubic Feet	1,301	28,813	90,188	125,422	
Gallons Pumped	4,555	205,790	459,085	263,350	938,156
Days	0	22	44	32	98
Average Flow, gpm	25.3	6.5	7.2	5.7	6.6
<u>Golf Course Storage Tank Inlet</u>					
Meter Reading, Cubic Feet	39,903,500	41,678,000	44,641,300	45,982,500	
Gallons Pumped		13,273,260	22,165,484	10,032,176	
Days		22	44	32	98
Average Flow, gpm		419	350	218	322
Treated Groundwater as a % of Golf Course Irrigation Water		1.6%	2.1%	2.7%	2.0%

EL TORO MLAS INTERIM GROUNDWATER TREATMENT SYSTEM SCHEMATIC FLOW DIAGRAM

FIGURE 1



ANALYTICAL RESULTS

MONTGOMERY LABORATORIES
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555 East Walnut Street, Pasadena, California 91101
(818) 796-9141 / (213) 681-4255 Telex 67-5420

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Navy (MCAS EL TORO) / JMM-WCK
501 Lennon Lane
Suite 200
Walnut Creek, CA 94598
Attn: Jenny Goodell

Job#: 226.0030
PO#: 226.0380
Workorder#: W24882
Report#: R08953
Phone #: 415-933-2250

Date Sampled: 10/12/89
Date Analyzed: 10/20/89

Date Received: 10/12/89

Lab Number: JA4865
Sample I.D.: GAC 1

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS:

Acrolein	ND	10
Acrylonitrile	ND	10
Benzene	ND	1.0
Bromoform	ND	1.0
Carbon Tetrachloride	ND	1.0
Chlorobenzene	ND	1.0
Dibromochloromethane	ND	1.0
Chloroethane	ND	10
2-Chloroethylvinylether	ND	10
Chloroform	3.0	1.0
Dichlorobromomethane	ND	1.0
1,1-Dichloroethane	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Ethylbenzene	ND	1.0
Methyl Bromide	ND	10
Methyl Chloride	ND	10
Methylene Chloride	ND	50
1,1,2,2-Tetrachloroethane	ND	1.0

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Approved by 

APPROVED

OCT 24 1989

QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
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Lab Number: JA4865
Sample I.D.: GAC 1

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
----------	-------------------------------------	---------------------------------------

VOLATILE PRIORITY POLLUTANTS (continued):

Tetrachloroethene	69	1.0
Toluene	ND	5.0
1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Trichloroethene	150	2.5
Vinyl Chloride	ND	10
trans-1,3-Dichloropropene	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
cis-1,2-Dichloroethene	9.2	1.0
Trichlorofluoromethane	ND	10
m,p-Xylenes	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0

HAZARDOUS SUBSTANCES COMPOUNDS:

Acetone	ND	100
2-Butanone	ND	10
Carbon disulfide	ND	1.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
Styrene	ND	1.0
Tetrahydrofuran	ND	100
Vinyl Acetate	ND	50
o-Xylene	ND	1.0

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: JA4865
Sample I.D.: GAC 1

Compound	Recovery (%)	QC Limits (%)
<hr/>		
SURROGATE:		
4-Bromofluorobenzene	103	86-115
1,2-Dichloroethane-d4	104	76-114
Toluene-d8	97	88-110

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

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Attn: Jenny Goodell

Job#: 226.0030
PO#: 226.0380
Workorder#: W24882
Report#: R08955
Phone #: 415-933-2250

Date Sampled: 10/12/89
Date Analyzed: 10/20/89

Date Received: 10/12/89

Lab Number: JA4867
Sample I.D.: GAC 2

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS:

Acrolein	ND	1.0
Acrylonitrile	ND	1.0
Benzene	ND	0.10
Bromoform	ND	0.10
Carbon Tetrachloride	ND	0.10
Chlorobenzene	ND	0.10
Dibromochloromethane	ND	0.10
Chloroethane	ND	1.0
2-Chloroethylvinylether	ND	1.0
Chloroform	0.6	0.10
Dichlorobromomethane	ND	0.10
1,1-Dichloroethane	0.2	0.10
1,2-Dichloroethane	0.1	0.10
1,1-Dichloroethene	ND	0.10
1,2-Dichloropropane	ND	0.10
Ethylbenzene	ND	0.10
Methyl Bromide	ND	1.0
Methyl Chloride	ND	1.0
Methylene Chloride	ND	5.0
1,1,2,2-Tetrachloroethane	ND	0.10

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

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Lab Number: JA4867
Sample I.D.: GAC 2

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS (continued):

Tetrachloroethene	ND	0.10
Toluene	ND	0.50
1,1,1-Trichloroethane	ND	0.10
1,1,2-Trichloroethane	ND	0.10
Trichloroethene	ND	0.10
Vinyl Chloride	ND	1.0
trans-1,3-Dichloropropene	ND	0.10
cis-1,3-Dichloropropene	ND	0.10
trans-1,2-Dichloroethene	ND	0.10
cis-1,2-Dichloroethene	0.3	0.10
Trichlorofluoromethane	ND	1.0
m,p-Xylenes	ND	0.10
1,2-Dichlorobenzene	ND	0.10
1,3-Dichlorobenzene	ND	0.10
1,4-Dichlorobenzene	ND	0.10

HAZARDOUS SUBSTANCES COMPOUNDS:

Acetone	ND	10
2-Butanone	ND	1.0
Carbon disulfide	ND	0.10
2-Hexanone	ND	1.0
4-Methyl-2-Pentanone	ND	1.0
Styrene	ND	0.10
Tetrahydrofuran	ND	10
Vinyl Acetate	ND	5.0
o-Xylene	ND	0.10

ND: Not Detected

NA: Not Analyzed

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Lab Number: JA4867
Sample I.D.: GAC 2

Compound	Recovery (%)	QC Limits (%)
<hr/>		
SURROGATE:		
4-Bromofluorobenzene	107	86-115
1,2-Dichloroethane-d4	98	76-114
Toluene-d8	104	88-110

ND: Not Detected

NA: Not Analyzed

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PO#: 226.0380
Workorder#: W24882
Report#: R08956
Phone #: 415-933-2250

Date Sampled: 10/12/89
Date Analyzed: 10/20/89

Date Received: 10/12/89

Lab Number: JA4868
Sample I.D.: GAC 3

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS:

Acrolein	ND	1.0
Acrylonitrile	ND	1.0
Benzene	ND	0.10
Bromoform	ND	0.10
Carbon Tetrachloride	ND	0.10
Chlorobenzene	ND	0.10
Dibromochloromethane	ND	0.10
Chloroethane	ND	1.0
2-Chloroethylvinylether	ND	1.0
Chloroform	ND	0.10
Dichlorobromomethane	ND	0.10
1,1-Dichloroethane	ND	0.10
1,2-Dichloroethane	ND	0.10
1,1-Dichloroethene	ND	0.10
1,2-Dichloropropane	ND	0.10
Ethylbenzene	ND	0.10
Methyl Bromide	ND	1.0
Methyl Chloride	ND	1.0
Methylene Chloride	ND	5.0
1,1,2,2-Tetrachloroethane	ND	0.10

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

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OCT 24 1989
QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: JA4868
Sample I.D.: GAC 3

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS (continued):

Tetrachloroethene	ND	0.10
Toluene	ND	0.50
1,1,1-Trichloroethane	ND	0.10
1,1,2-Trichloroethane	ND	0.10
Trichloroethene	ND	0.10
Vinyl Chloride	ND	1.0
trans-1,3-Dichloropropene	ND	0.10
cis-1,3-Dichloropropene	ND	0.10
trans-1,2-Dichloroethene	ND	0.10
cis-1,2-Dichloroethene	ND	0.10
Trichlorofluoromethane	ND	1.0
m,p-Xylenes	ND	0.10
1,2-Dichlorobenzene	ND	0.10
1,3-Dichlorobenzene	ND	0.10
1,4-Dichlorobenzene	ND	0.10

HAZARDOUS SUBSTANCES COMPOUNDS:

Acetone	ND	10
2-Butanone	ND	1.0
Carbon disulfide	ND	0.10
2-Hexanone	ND	1.0
4-Methyl-2-Pentanone	ND	1.0
Styrene	ND	0.10
Tetrahydrofuran	ND	10
Vinyl Acetate	ND	5.0
o-Xylene	ND	0.10

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: JA4868
Sample I.D.: GAC 3

Compound	Recovery (%)	QC Limits (%)
<hr/>		
SURROGATE:		
4-Bromofluorobenzene	107	86-115
1,2-Dichloroethane-d4	97	76-114
Toluene-d8	92	88-110

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

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Report of GC/MS Analysis for
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501 Lennon Lane
Suite 200
Walnut Creek, CA 94598
Attn: Jenny Goodell

Job#: 226.0030
PO#: 226.0380
Workorder#: W24882
Report#: R08957
Phone #: 415-933-2250

Date Sampled: 10/12/89
Date Analyzed: 10/20/89

Date Received: 10/12/89

Lab Number: JA4869
Sample I.D.: GAC 3 SPIKE

Compound	% recovery
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VOLATILE PRIORITY POLLUTANTS:

Benzene	100
Chlorobenzene	82
,1-Dichloroethene	135
Toluene	122
Trichloroethene	130

The Laboratory Control Samples on the day this sample was analyzed met the QC requirements.

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Approved by 

APPROVED

OCT 24 1989

QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number:
Sample I.D.:

JA4869
GAC 3SPIKE

Compound	Recovery (%)	QC Limits (%)
SURROGATE:		
4-Bromofluorobenzene	110	86-115
1,2-Dichloroethane-d4	92	76-114
Toluene-d8	102	88-110

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

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Walnut Creek, CA 94598
Attn: Jenny Goodell

Job#: 226.0030
PO#: 226.0380
Workorder#: W24882
Report#: R08954
Phone #: 415-933-2250

Date Sampled: 10/12/89
Date Analyzed: 10/20/89

Date Received: 10/12/89

Lab Number:
Sample I.D.:

JA4866
GAC 1DUP

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS:

Acrolein	ND	10
Acrylonitrile	ND	10
nzene	ND	1.0
Bromoform	ND	1.0
Carbon Tetrachloride	ND	1.0
Chlorobenzene	ND	1.0
Dibromochloromethane	ND	1.0
Chloroethane	ND	10
2-Chloroethylvinylether	ND	10
Chloroform	3.1	1.0
Dichlorobromomethane	ND	1.0
1,1-Dichloroethane	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Ethylbenzene	ND	1.0
Methyl Bromide	ND	10
Methyl Chloride	ND	10
Methylene Chloride	ND	50
1,1,2,2-Tetrachloroethane	ND	1.0

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Approved by 

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OCT 26 1989

QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: JA4866
Sample I.D.: GAC 1DUP

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS (continued):

Tetrachloroethene	66	1.0
Toluene	ND	5.0
1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Trichloroethene	130	25
Vinyl Chloride	ND	10
trans-1,3-Dichloropropene	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
cis-1,2-Dichloroethene	9.4	1.0
Trichlorofluoromethane	ND	10
m,p-Xylenes	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0

HAZARDOUS SUBSTANCES COMPOUNDS:

Acetone	ND	10
2-Butanone	ND	10
Carbon disulfide	ND	1.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
Styrene	ND	1.0
Tetrahydrofuran	ND	10
Vinyl Acetate	ND	10
o-Xylene	ND	1.0

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Page 3 of 3
Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number:
Sample I.D.:

JA4866
GAC 1DUP

Compound	Recovery (%)	QC Limits (%)
SURROGATE:		
4-Bromofluorobenzene	101	86-115
1,2-Dichloroethane-d4	104	76-114
Toluene-d8	97	88-110

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

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Navy(MCAS EL TORO)/JMM-WCK
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Suite 200
Walnut Creek, CA 94598
Attn: Jenny Goodell

Job#: 226.0030
PO#: 226.0380
Workorder#: W24882
Report#: R08958
Phone #: 415-933-2250

Date Sampled: 10/12/89
Date Analyzed: 10/20/89

Date Received: 10/12/89

Lab Number:
Sample I.D.:

JA4870
TRAVEL BLANK 10/6/89

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS:

Acrolein	ND	1.0
Acrylonitrile	ND	1.0
Benzene	ND	0.10
Bromoform	ND	0.10
Carbon Tetrachloride	ND	0.10
Chlorobenzene	ND	0.10
Dibromochloromethane	ND	0.10
Chloroethane	ND	1.0
2-Chloroethylvinylether	ND	1.0
Chloroform	ND	0.10
Dichlorobromomethane	ND	0.10
1,1-Dichloroethane	ND	0.10
1,2-Dichloroethane	ND	0.10
1,1-Dichloroethene	ND	0.10
1,2-Dichloropropane	ND	0.10
Ethylbenzene	ND	0.10
Methyl Bromide	ND	1.0
Methyl Chloride	ND	1.0
Methylene Chloride	ND	5.0
1,1,2,2-Tetrachloroethane	ND	0.10

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Approved by 

APPROVED
OCT 24 1989
QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number:
Sample I.D.:

JA4870
TRAVEL BLANK 10/6/89

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS (continued):

Tetrachloroethene	ND	0.10
Toluene	ND	0.50
1,1,1-Trichloroethane	0.1	0.10
1,1,2-Trichloroethane	ND	0.10
Trichloroethene	ND	0.10
Vinyl Chloride	ND	1.0
trans-1,3-Dichloropropene	ND	0.10
cis-1,3-Dichloropropene	ND	0.10
trans-1,2-Dichloroethene	ND	0.10
cis-1,2-Dichloroethene	ND	0.10
Trichlorofluoromethane	ND	1.0
m,p-Xylenes	ND	0.10
1,2-Dichlorobenzene	ND	0.10
1,3-Dichlorobenzene	ND	0.10
1,4-Dichlorobenzene	ND	0.10

HAZARDOUS SUBSTANCES COMPOUNDS:

Acetone	ND	10
2-Butanone	ND	1.0
Carbon disulfide	ND	0.10
2-Hexanone	ND	1.0
4-Methyl-2-Pentanone	ND	1.0
Styrene	ND	0.10
Tetrahydrofuran	ND	10
Vinyl Acetate	ND	5.0
o-Xylene	ND	0.10

ND: Not Detected

NA: Not Analyzed

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VOLATILE ORGANICS
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Lab Number:
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Compound	Recovery (%)	QC Limits (%)
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SURROGATE:

4-Bromofluorobenzene	105	86-115
1,2-Dichloroethane-d4	97	76-114
Toluene-d8	95	88-110

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.